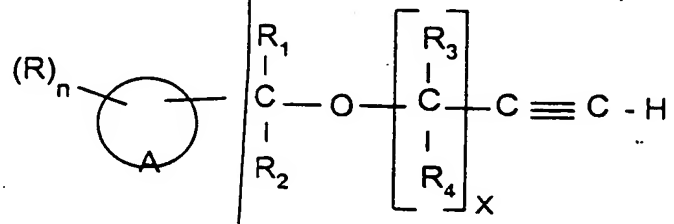
## CLAIMS

1. A process for preparing a mixed ether of the benzyl/substituted alkynyl type from a mixed ether of the benzyl/alkynyl type with a hydrogen atom on the triple bond, characterized in that it consists of reacting a mixed ether derived from a benzyl type alcohol and an alkynyl alcohol carrying a hydrogen atom on the triple bond with an alkylation agent, in the presence of an anionisation agent.

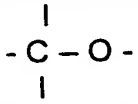
2. A process according to claim 1, characterized in that the mixed alkynyl ether has general formula (I):



(I)

in which:

- A represents the residue of a cycle forming all or part of an aromatic, monocyclic or polycyclic, carbocyclic or heterocyclic system comprising at least one group



- R represents one or more substituents which may be identical or different;
- $R_1$ and $R_2$, which may be identical or different, represent a hydrogen atom, a functional group or a hydrocarbon group containing 1 to 24 carbon atoms, which can be a linear or branched, saturated or unsaturated, acyclic aliphatic group; a saturated, unsaturated or aromatic, monocyclic or polycyclic cycloaliphatic group; or a linear or branched, saturated or unsaturated aliphatic group carrying a cyclic substituent;
- $R_3$ and $R_4$, which may be identical or different, represent a hydrogen atom or a hydrocarbon group containing 1 to 12 carbon atoms;
- n is a number equal to 5 or less;
- x is a number from 1 to 10, preferably 1 to 5.

3. A process according to claim 1 or claim 2, characterized in that the mixed alkynyl ether has general formula (I) in which $R_1$ and $R_2$, which may be identical or different, represent:

- a linear or branched, saturated or unsaturated, acyclic aliphatic group, preferably a linear or branched alkyl group containing 1 to 12 carbon atoms, preferably 1 to 6 carbon atoms; the hydrocarbon chain is optionally interrupted by a heteroatom, a functional group and/or it may carry substituents;
- a linear or branched, saturated or unsaturated, acyclic aliphatic group carrying a cyclic substituent that may be substituted: said acyclic group can be connected to the cycle via a covalent bond, a heteroatom or a functional group;
- a carbocyclic group that is saturated or comprises 1 or 2 unsaturated bonds in the cycle, generally containing 3 to 8 carbon atoms, preferably 6 carbon atoms in the cycle; said cycle may be substituted;
- an aromatic carbocyclic group, preferably monocyclic, generally containing at least 4 carbon atoms, preferably 6 carbon atoms in the cycle; said cycle may be substituted;

and one of groups $R_1$ and $R_2$ can represent a $CF_3$ group.

4. A process according to any one of claims 1 to 3, characterized in that the mixed alkynyl ether has general formula (I) in which residue A is the residue of a cyclic compound preferably containing at least 4 carbon atoms in the cycle, more preferably 5 or 6, optionally substituted, and representing at least one of the following cycles:

- an aromatic, monocyclic or polycyclic carbocycle, preferably a benzene ring or a naphthalene cycle;
- an aromatic, monocyclic or polycyclic heterocycle comprising at least one of heteroatoms O, N or S.

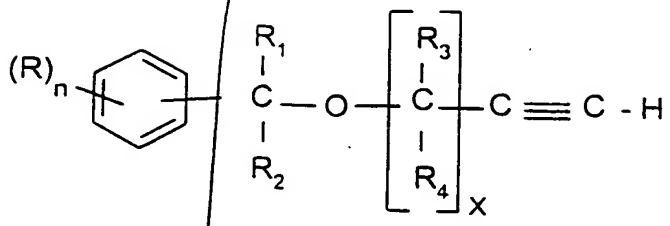
5. A process according to claim 4, characterized in that the mixed alkynyl ether has general formula (I) in which residue A can carry one or more electron-donating groups such as:

- linear or branched alkyl groups, preferably containing 1 to 6 carbon atoms, more preferably 1 to 4 carbon atoms;
- linear or branched alkenyl groups, preferably containing 2 to 6 carbon atoms, more preferably 2 to 4 carbon atoms;
- linear or branched halogenoalkyl groups, preferably containing 1 to 6 carbon atoms, more preferably 1 to 4 carbon atoms;
- cycloalkyl groups containing 3 to 6 carbon atoms, preferably the cyclohexyl group;
- the phenyl group;
- alkoxy $R_5$-O- or thioether $R_5$-S- groups, in which $R_5$ represents a linear or branched alkyl group containing 1 to 6 carbon atoms, more preferably 1 to 4 carbon atoms or a phenyl group;
- -N-$(R_6)_2$ groups, in which groups $R_6$, which may be identical or different, represent a hydrogen atom, a linear or branched alkyl group containing 1 to 6 carbon atoms, preferably 1 to 4 carbon atoms, or a phenyl group;
- the group $CF_3$.

6. A process according to any one of claims 1 to 5, characterized in that the mixed alkynyl ether has general formula (I), in which, when n is 2 or more, two groups R and the 2 successive atoms on the aromatic cycle can be bonded together via an alkylene, alkenylene or alkenylidene group containing 2 to 4 carbon atoms to form a saturated, unsaturated or aromatic heterocycle containing 5 to 7 carbon atoms; one or more carbon atoms can be replaced by a further heteroatom, preferably oxygen.

7. A process according to any one of claims 1 to 6, characterized in that the mixed alkynyl ether has formula (I) in which $R_3$ and $R_4$, which may be identical or different, represent a hydrogen atom or a linear or branched alkyl group containing 1 to 12 carbon atoms, preferably 1 to 4.

8. A process according to claim 1, characterized in that the mixed alkynyl ether has formula (Ia):



(Ia)

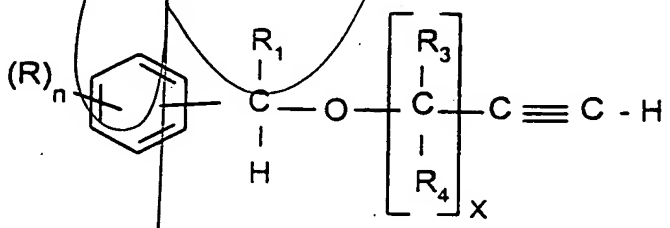
in which:

- n is a number equal to 4 or less, preferably 1 or 2;
- x is a number equal to 1, 2 or 3;
- group or groups R are electron-donating groups, preferably an alkyl or alkoxy group containing 1 to 4 carbon atoms, or methylenedioxy or ethylenedioxy;
- groups $R_1$ or $R_2$, which may be identical or different, represent:
  - a hydrogen atom;
  - a linear or branched alkyl group containing 1 to 6 carbon atoms, preferably 1 to 4 carbon atoms, such as methyl, ethyl, propyl, isopropyl, butyl, isobutyl, sec-butyl, tert-butyl;
  - a cycloalkyl group containing 3 to 8 carbon atoms, preferably a cyclopentyl or cyclohexyl group;
  - a phenyl group;
  - a phenylalkyl group containing 7 to 12 carbon atoms, preferably a benzyl group;
  - a $CF_3$ group;
- groups $R_3$ and $R_4$, which may be identical or different, represent a hydrogen atom or a linear or branched alkyl group containing 1 to 4 carbon atoms.

9. A process according to claim 8, characterized in that the mixed alkynyl ether has formula (Ia) in which:

- n is a number equal to 1 or 2;
- x is a number equal to 1, 2 or 3;
- groups R, which may be identical or different, represent an alkyl or alkoxy group containing 1 to 4 carbon atoms or methylenedioxy or ethylenedioxy;
- groups $R_1$ and $R_2$, which may be identical or different, represent:
  - a hydrogen atom;
  - a linear or branched alkyl group containing 1 to 6 carbon atoms, preferably 1 to 4 carbon atoms, such as methyl, ethyl, propyl, isopropyl, butyl, isobutyl, sec-butyl, tert-butyl;
- groups $R_3$ and $R_4$, which may be identical or different, represent a hydrogen atom or a linear or branched alkyl group containing 1 to 4 carbon atoms.

10. A process according to claim 1, characterized in that the mixed alkynyl ether has formula (Ib):



(Ib)

in which:

- n is equal to 1 or 2;
- group or groups R represent an alkyl or alkoxy group containing 1 to 4 carbon atoms, or methylenedioxy;
- group $R_1$ represents a hydrogen atom or a linear or branched alkyl group containing 1 to 4 carbon atoms.

11. A process according to claim 1, characterized in that the mixed alkynyl ether is [1-(prop-1-ynyloxy)ethyl]-3,4 dimethoxybenzene.

12. A process according to any one of claims 1 to 11, characterized in that the alkylation agent is a dialkylsulphate or a halide type compound.

13. A process according to claim 12, characterized in that the alkylation agent is a dialkylsulphate with formula:

$R_7$-O-$SO_2$-O-$R_7$ (IVa)

in which $R_7$ represents a linear or branched alkyl group containing 1 to 6 carbon atoms.

14. A process according to claim 12, characterized in that the alkylation agent is a halide type compound with formula:

$R_8$-X (IVb)

in which:

- $R_8$ represents a hydrocarbon group containing 1 to 20 carbon atoms that can be a linear or branched, saturated or unsaturated, acyclic aliphatic group; a saturated unsaturated or aromatic, monocyclic or polycyclic cycloaliphatic group; or a linear or branched, saturated or unsaturated aliphatic group carrying a cyclic substituent;
- X represents a bromine, chlorine or iodine atom.

15. A process according to claim 14, characterized in that the alkylation agent has formula (IVb) in which X is a chlorine atom or an iodine atom and $R_8$ is a linear or branched alkyl group containing 1 to 4 carbon atoms.

16. A process according to claim 12, characterized in that the alkylation agent is dimethylsulphate, methyl iodide, methyl chloride, chloroethane, methyl bromide or bromoethane.

17. A process according to any one of claims 1 to 16, characterized in that the anionisation agent is an amide type base, a metallic alcoholate or an alkali metal.

18. A process according to claim 17, characterized in that the anionisation agent is selected from: lithium diisopropylamide, lithium hexamethyldisilazane prepared or used in situ by the action of a strong lithiated base on the corresponding amine; an alkali metal alcoholate, preferably a sodium or potassium alcoholate, preferably sodium or potassium methylate, ethylate or tert-butylate; and sodium or potassium.

19. A process according to claim 17 or claim 18, characterized in that the anionisation agent is sodium or potassium amide.

20. A process according to any one of claims 1 to 19, characterized in that the reaction is carried out in an organic solvent that is inert towards the anionisation agent, preferably an aliphatic or aromatic hydrocarbon.

21. A process according to any one of claims 1 to 20, characterized in that the temperature of the C-alkylation reaction is generally selected to be between 20°C and the reflux temperature of the reaction mixture, preferably between 50°C and 80°C.

22. A process according to any one of claims 1 to 21, characterized in that the compound with formula (I) and the anionisation agent are brought into contact; the reaction medium is heated to the desired temperature; the alkylation agent is added, and the substituted mixed alkynyl ether is recovered.

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